

WHAT IS CLAIMED IS:

- 1                   1.       A method of detecting a DNA in a milk sample, said method  
2 comprising the steps of:  
3                   (a) contacting said milk sample with a metal ion chelator;  
4                   (b) contacting said milk sample with a detergent;  
5                   (c) after steps (a) and (b), detecting said DNA thereby detecting the DNA in  
6 said milk sample.
- 1                   2.       The method of claim 1, wherein no protease is added to said milk  
2 sample.
- 1                   3.       The method of claim 1, wherein said detecting said DNA is  
2 quantitating said DNA, thereby determining the somatic cell count within the milk sample.
- 1                   4.       The method of claim 3, wherein said milk sample is a crude bovine  
2 milk sample.
- 1                   5.       The method of claim 1, wherein said metal ion chelator is a member  
2 selected from the group of EDTA, CyDTA, DHEG, DTPA-OH, DTPA, EDDA, EDDP,  
3 EDDPO, EDTA-OH, EDTPO, EGTA, HBED, HDTA, HIDA, IDA, Methyl-EDTA, NTA,  
4 NTP, NTPO, O-Bistren, and TTHA, o-phenanthroline, dipicolinic acid, and deferoxamine.
- 1                   6.       The method of claim 1, wherein said metal ion chelator is EDTA.
- 1                   7.       The method of claim 1, wherein said detergent is a non-ionic detergent.
- 1                   8.       The method of claim 7, wherein said non-ionic detergent is a member  
2 selected from the group of Octylglucoside, Digitonin, C12E8, Lubrol, Triton X-100, Nonidet  
3 P-40, Tween-80, Tween-20, BRIG 35, Dodecyl maltopyranoside, Heptyl  
4 thioglucopyranoside, Pluronic F-127, Genapol X-080, MEGA 10.
- 1                   9.       The method of claim 1, wherein said detergent is Tween-20.
- 1                   10.      The method of claim 1, further comprising  
2 (c) contacting said milk sample with a detectable DNA probe;  
3 (d) after steps, (a), (b), and (c), detecting said detectable DNA probe thereby  
4 detecting said DNA in said milk sample.

1                   11.     The method of claim 1, wherein the pH of the milk sample is between  
2     8.0 and 11.0, inclusive.

1                   12.     An analytical composition comprising a milk sample, a metal ion  
2     chelator, and a detergent, wherein said milk sample comprises a nucleic acid.

1                   13.     The composition of claim 12, wherein said milk sample is a crude milk  
2     sample.

1                   14.     The composition of claim 12, wherein said nucleic acid is a DNA.

1                   15.     The composition of claim 14, wherein said composition further  
2     comprises a detectable DNA probe.

1                   16.     The composition of claim 12, wherein said composition does not  
2     include a protease.

1                   17.     The composition of claim 12, wherein said metal ion chelator is a  
2     member selected from the group of EDTA, CyDTA, DHEG, DTPA-OH, DTPA, EDDA,  
3     EDDP, EDDPO, EDTA-OH, EDTPO, EGTA, HBED, HDTA, HIDA, IDA, Methyl-EDTA,  
4     NTA, NTP, NTPO, O-Bistren, and TTHA, o-phenanthroline, dipicolinic acid, and  
5     deferoxamine.

1                   18.     The composition of claim 12, wherein said metal ion chelator is  
2     EDTA.

1                   19.     The composition of claim 12, wherein said detergent is a non-ionic  
2     detergent.

1                   20.     The composition of claim 19, wherein said non-ionic detergent is a  
2     member selected from the group of Octylglucoside, Digitonin, C12E8, Lubrol, Triton X-100,  
3     Nonidet P-40, Tween-80, Tween-20, BRIG 35, Dodecyl maltopyranoside, Heptyl  
4     thioglucopyranoside, Pluronic F-127, Genapol X-080, MEGA 10.

1                   21.     The composition of claim 12, wherein said detergent Tween-20.

1                   22.     A kit for detecting a nucleic acid in a milk sample comprising a metal  
2     ion chelator, a detergent, and a detectable DNA probe.

- 1                    23.    The kit of claim 22 further comprising a fluorescence detection system.